

## Adolescent pregnancy and child undernutrition: A meta-analysis

This is a summary of the following paper: *Welch C, Wong C, Lelijveld N et al (2023) Adolescent pregnancy is associated with child undernutrition: Systematic review and meta-analysis. Maternal & Child Nutrition, 20, 1, e13569. <https://doi.org/10.1111/mcn.13569>*



A midwife provides health care to an adolescent girl at Dhamainagar community clinic in Bangladesh

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**A**dolescent pregnancy is linked to foetal growth issues, raising concerns about childhood wasting and underweight. However, little is known about how young maternal age influences childhood anthropometry after the neonatal stage. This review and meta-analysis explored the association between adolescent pregnancy and child wasting and underweight, delving into possible social and biological factors.

Peer-reviewed literature from 1990 onwards were systematically reviewed for studies reporting wasting and/or underweight in children aged under five years born to adolescent mothers (aged 10–19, or  $\leq 24$  where relevant) in low- and middle-income countries. Of a total of 92 studies identified, 57 were included for meta-analysis, while all underwent qualitative synthesis. Flexibility in inclusion criteria was extended to include infants aged under one month and mothers aged 20–24 years, subject to meeting all other eligibility criteria. This was due to their being limited studies focusing solely on infants aged one month and mothers under 20 years.

Results from the meta-analysis showed that children born to adolescent mothers ( $\leq 24$  years)

compared with adult mothers were associated with 1.12 times greater odds of moderate underweight ( $p = 0.04$ ) and 1.21 times greater odds of severe underweight ( $p < 0.01$ ) in children aged 1–59 months. Pooled analysis for child wasting, presented as odds ratios, showed no statistically significant association between adolescent pregnancy ( $\leq 24$  years) and moderate wasting (OR 1.05,  $p = 0.17$ ) or severe wasting (OR 1.16,  $p = 0.59$ ) in children aged 1–59 months compared to adult pregnancy.

While the pooled OR indicated associations between the subgroup of adolescents aged 10–19 years versus adult pregnancy and moderate and severe wasting, findings were not significant (moderate wasting, OR  $p = 0.08$ ; severe wasting, OR 1.15;  $p = 0.83$ ).

In Asia, adolescent pregnancy ( $\leq 24$  years) was found to be associated with a 16% higher likelihood of moderate underweight ( $p = 0.02$ ) and a 9% higher likelihood of moderate wasting ( $p = 0.04$ ) in children aged 1–59 months compared to pregnancies among adults. Additionally, for severely underweight children in Asia, there was a 23% higher likelihood for those born to adolescent mothers ( $p = 0.03$ ). However, no

effect of adolescent pregnancy on severe wasting was found. In sub-Saharan Africa, adolescent pregnancy showed no effects on moderate underweight or moderate to severe wasting. No data was presented on severely underweight.

The study's strengths were a systematic approach, broad geographical coverage, and the large number of papers included in the review. That said, using numerous cross-sectional studies and open-source datasets does introduce limitations. Efforts were made to validate and remove duplicates, but some datasets may have been overrepresented in the meta-analysis – impacting reliability. Certain countries like Bangladesh and India were overrepresented, influencing stronger associations in Asia.

This review shows that being born to an adolescent mother, compared to an adult, increases the risk of child underweight and, in Asia specifically, moderate wasting. Reviewed evidence suggests that maternal nutritional status may play an intermediary role. This underscores the importance of interventions to delay adolescent pregnancy and improve adolescent nutritional status, aiming to mitigate childhood undernutrition and break the intergenerational cycle of malnutrition.

## Bangladesh: Experiences of adolescent mothers in caring for their preterm babies

This is a summary of the following paper: *Shumona S, Ahmad E, Shema M et al (2024) Perception and experiences of adolescent mothers and communities in caring for their preterm babies: Findings from an in-depth study in rural Bangladesh. BMJ Pregnancy and Childbirth, 24, 1, 145. <https://doi.org/10.1186/s12884-024-06345-x>*

**B**angladesh has one of the highest incidences of preterm births globally. The country also has a high prevalence of early marriage and adolescent pregnancy. According to the Bangladesh Demographic and Health Survey (2017–2018), 71% of women aged 20–49 years were married by the age of 18. The survey also highlights that 28% of adolescent girls aged 15–19 years have begun childbearing. However, despite high rates of adolescent pregnancy and preterm birth, there is a lack of documentation regarding adolescent mothers' experiences and the interventions needed to assist them in preterm infant care.

To address this gap, a qualitative study was conducted in rural villages of central Bangladesh to understand both mother and community perspectives on preterm birth and preterm care. The study focused primarily on adolescent mothers aged 15–19 years who had delivered preterm babies within the previous six months. Additionally, adolescent mothers of full-term babies and

older mothers who had experienced preterm birth in the same timeframe were included to compare perceptions and experiences. Secondary participants included the immediate family members of preterm infants, community members, and healthcare providers.

Findings revealed diverse perceptions of the ideal gestation period – described in months, rather than weeks. Most participants relied heavily on dates provided during hospital visits to estimate their due dates, underscoring the critical role of antenatal care. Although participants' understanding of causes of preterm birth was generally limited, “poor nutritional status of the mother or inadequate eating” was one of the most mentioned causes for premature birth. All participants described preterm infants as “undernourished”, “small”, and/or “weak”, with “low weight” and having a “frail appearance” or “long and thin hands and legs” also a focus. Despite both adolescent and adult mothers mentioning the need for the provision of extra care to pre-

term babies, adolescent mothers faced challenges pointing to what this care entailed. Adolescent mothers were found to have low decision-making abilities and often consulted family members, depending on female family members for caregiving and emotional support.

Traditional practices persisted, including bathing children after birth and non-exclusive breastfeeding by giving honey and warm water. Participants in the study widely shared the view that, for undernourished and weak preterm babies to grow, they must be fed well. For severely preterm babies unable to breastfeed, milk was expressed and the baby then fed with a spoon. None of the participants demonstrated awareness of the significance of regular weight monitoring for infants.

Various factors – including local knowledge, socio-cultural practices, and health system limitations – shaped the understanding of and care practices for preterm infants among both adolescent and adult mothers. Improving birth outcomes requires increased awareness among adolescents, women, and families regarding preterm birth, alongside improvements in the quality of preterm birth services offered at healthcare facilities.

*The Field Exchange editorial team would also like to highlight the importance of strengthening interventions to delay early marriage as a root cause.*